

CLAIMS

1 1. A method for fabricating a magnetic head comprising the steps of:
2 fabricating a write head portion of said magnetic head, including the steps of:
3 fabricating first magnetic pole;
4 fabricating an insulation layer above said first magnetic pole;
5 depositing a seed layer upon said insulation layer;
6 electroplating an induction coil upon said seed layer;
7 removing portions of said seed layer that are not covered by said induction coil,
8 utilizing a RIE process;
9 wherein said RIE process utilizes fluorine species, and said seed layer is
10 comprised of a material that forms a gaseous compound with said fluorine species.

1 2. A method for fabricating a magnetic head as described in claim 1 wherein said seed layer
2 is comprised of a material selected from the group consisting of tungsten and titanium.

1 3. A method for fabricating a magnetic head as described in claim 2 wherein said seed layer
2 has a thickness of approximately 500 Å to 800 Å..

1 4. A method for fabricating a magnetic head as described in claim 2 wherein said seed layer
2 is fabricated in a sputter deposition process.

1 5. A method for fabricating a magnetic head as described in claim 2 wherein said RIE
2 process utilizes a compound selected from the group consisting of CF₄, CHF₃, SF₆, C₂F₆ and
3 C₃F₈ to provide said fluorine ion species.

1 6. A method for fabricating a magnetic head as described in claim 1 wherein said induction
2 coil is composed of copper, and wherein said seed layer includes and an upper part comprised of
3 copper and a lower portion comprised of a material selected from the group consisting of
4 tungsten, titanium and tantalum, and wherein said induction coil is electroplated upon said
5 copper upper portion of said seed layer.

1 7. A method for fabricating a magnetic head comprising the steps of:
2 fabricating a write head portion of said magnetic head, including the steps of:
3 fabricating a first magnetic pole;
4 fabricating a seed layer above said first magnetic pole;
5 electroplating a second magnetic pole upon said seed layer;
6 removing portions of said seed layer that are not covered by said second magnetic
7 pole utilizing a RIE process;
8 wherein said RIE process utilizes fluorine ion species, and said seedlayer is
9 comprised of a material that forms a gaseous compound with said fluorine ion species.

1 8. A method for fabricating a magnetic head as described in claim 7 wherein said seed layer
2 is comprised of a material selected from the group consisting of tungsten and titanium.

1 9. A method for fabricating a magnetic head as described in claim 8 wherein said seed layer
2 has a thickness of approximately 500 Å to 800 Å.

1 10. A method for fabricating a magnetic head as described in claim 8 wherein said seed layer
2 is fabricated in a sputter deposition process.

1 11. A method for fabricating a magnetic head as described in claim 7 wherein said RIE
2 process utilizes a compound selected from the group consisting of CF₄, CHF₃, SF₆, C₂F₆ and
3 C₃F₈ to provide said fluorine ion species.

1 12. A method for fabricating a magnetic head as described in claim 7 wherein said second
2 magnetic pole is composed of NiFe, and wherein said seed layer is fabricated to include an upper
3 part comprised of NiFe and a lower part comprised of a material selected from the group
4 consisting of tungsten, titanium and tantalum, and wherein said second magnetic pole is
5 electroplated upon said NiFe upper portion of said seed layer.

1 13. A method for fabricating a magnetic head as described in claim 7 wherein said seed layer
2 is fabricated upon said first magnetic pole.

1 14 A method for fabricating a magnetic head as described in claim 13 wherein said seed
2 layer is a write gap layer disposed between said first magnetic pole and said second magnetic
3 pole.

1 15. A magnetic head comprising:
2 a write head portion,
3 an insulation layer being disposed within said write head portion;
4 a seed layer being disposed upon said insulation layer,
5 an induction coil being disposed upon said insulation layer;
6 said seed layer being comprised of a material selected from the group consisting of
7 tungsten, tantalum and titanium.

1 16. A magnetic head as described in claim 15 wherein said seed layer is formed with a
2 thickness of approximately 500 Å to 800 Å.

1 17. A magnetic head as described in claim 15 wherein said induction coil is comprised of
2 copper, and wherein said seed layer is comprised of a lower part and a copper upper part,
3 wherein said lower part is disposed upon said insulation layer, and said induction coil is disposed
4 upon said copper part.

1 18. A magnetic head as described in claim 17 wherein said lower part of said seed layer is
2 formed with a thickness of approximately 500 Å to 800 Å, and said copper part of said seed layer
3 is formed with a thickness of approximately 100 Å.

1 19. A magnetic head comprising:
2 a write head portion including a first magnetic pole and a second magnetic pole;

3 a seed layer being disposed between said first magnetic pole and said second magnetic
4 pole, said second magnetic pole being disposed upon said seed layer;
5 said seed layer being comprised of a material selected from the group consisting of
6 tungsten, tantalum and titanium.

1 20. A magnetic head as described in claim 19 wherein said seed layer is formed with a
2 thickness of approximately 500 Å to 2,000 Å.

1 21. A magnetic head as described in claim 19 wherein said second magnetic pole is
2 comprised of an NiFe, and wherein said seed layer includes a lower part and an upper part
3 comprised of NiFe, and wherein said second magnetic pole is disposed upon said NiFe upper
4 part of said seed layer.

1 22. A magnetic head as described in claim 21 wherein said NiFe upper part of said seed layer
2 is formed with a thickness of approximately 100 Å, and said lower part of said seed layer is
3 formed with a thickness of approximately 500 Å to 2,000 Å.

1 23. A hard disk drive comprising:
2 at least one hard disk being adapted for rotary motion upon a disk drive;
3 at least one magnetic head being adapted to fly over said hard disk for writing data on
4 said hard disk, said magnetic head including:
5 a write head portion,
6 an insulation layer being disposed within said write head portion;

7 a seed layer being disposed upon said insulation layer,
8 an induction coil being disposed upon said insulation layer;
9 said seed layer being comprised of a material selected from the group consisting of
10 tungsten, tantalum and titanium.

1 24. A hard disk drive as described in claim 23 wherein said seed layer is formed with a
2 thickness of approximately 500 Å to 800 Å.

1 25. A hard disk drive as described in claim 23 wherein said induction coil is comprised of
2 copper, and wherein said seed layer is comprised of a copper part and a lower part, wherein said
3 lower part is disposed upon said insulation layer, and said induction coil is disposed upon said
4 copper part.

1 26. A hard disk drive as described in claim 25 wherein said lower part of said seed layer is
2 formed with a thickness of approximately 500 Å to 800 Å, and said copper part of said seed layer
3 is formed with a thickness of approximately 100 Å.

1 27. A hard disk drive comprising:
2 at least one hard disk being adapted for rotary motion upon a disk drive;
3 at least one magnetic head being adapted to fly over said hard disk for writing data on
4 said hard disk, said magnetic head including:
5 a write head portion including a first magnetic pole and a second magnetic pole;

6 a seed layer being disposed between said first magnetic pole and said second magnetic
7 pole, said second magnetic pole being disposed upon said seed layer;
8 said seed layer being comprised of a material selected from the group consisting of
9 tungsten, tantalum and titanium.

1 28. A hard disk drive as described in claim 27 wherein said seed layer is formed with a
2 thickness of approximately 500 Å to 2,000 Å.

1 29. A hard disk drive as described in claim 27 wherein said second magnetic pole is
2 comprised of an NiFe, and wherein said seed layer includes a lower part and an upper part
3 comprised of NiFe, and wherein said second magnetic pole is disposed upon said NiFe upper
4 part of said seed layer.

1 30. A hard disk drive as described in claim 29 wherein said NiFe upper part of said seed
2 layer is formed with a thickness of approximately 100 Å, and said lower part of said seed layer is
3 formed with a thickness of approximately 500 Å to 2,000 Å.